Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Usage of the Public Switched by Network by Information Service and Internet Access Providers	)	CC Docket No. 96-263
	)	
	)	

COMMENTS

BellSouth Corporation and BellSouth Telecommunications, Inc. ("BellSouth") hereby submit their comments on the Notice of Inquiry released by the Commission on December 24, 1996, to consider the actions the Commission should take regarding information and Internet providers interstate use of the public switched network.[1]

I. INTRODUCTION

Under the existing access charge regime, enhanced service providers (ESPs) are exempt from paying interstate access charges to the extent that they use local exchange switched facilities to originate and terminate interstate calls. The ESP exemption was established when the original access charge rules were adopted because the Commission had concluded that the immediate application of access charges might unduly burden incipient ESP operations and possibly cause

---

[1] *In the Matter of Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing, Usage of the Public Switched Network by Information Service and Internet Access Providers*, CC Docket No. 96-262, CC Docket No. 94-1, CC Docket No. 91-213, CC Docket No. 96-263, FCC 94-488, Notice of Proposed Rulemaking, Third Report and Order and Notice of Inquiry, released December 24, 1996. (hereinafter "NOI")

disruptions in providing service to the public.[2] The exemption, however, was not intended to be permanent.[3] The outstanding concern of the Commission has been that ESPs through the local charges that they pay may not contribute sufficiently to the interstate costs of the exchange access facilities they use in offering their services to the public. As a result, the Commission has observed that the ESP exemption may force other users of switched access to bear a disproportionate share of the local exchange costs that access charges are designed to cover.[4]

When the Commission last considered the ESP exemption in 1988, it reached the conclusion that the changing telecommunications environment made it inappropriate to terminate the ESP exemption.[5] The Commission further found that any discrimination that existed by reason of the exemption remained reasonable as long as the enhanced services industry remained in a state of change and uncertainty.[6]

In the recent access charge reform proceeding the Commission tentatively concluded to continue the ESP exemption and not to apply an access charge regime that was designed for circuit switched voice telephony. BellSouth concurred in the Commission's tentative conclusion. In BellSouth's view, the marketplace should be free to operate to provide the choice of product/network solutions that will optimize network usage. Thus, the challenge is to create the environment that will permit innovative solutions to develop.

---

2 *See Amendments of Part 69 of the Commission's Rules Relating to Enhanced Service Providers*, 3 FCC Rcd 2631 (1988).

3 *Id.*

4 *Id.*

5 *Id.* at 2633.

6 *Id.*

The NOI provides the opportunity to consider creative approaches and a regulatory framework that will encourage both voice and high-speed data networks. The concern expressed by the Commission that just applying access charges to information services might hinder the development of new data services highlights the complexity of the issues that are presented Without a doubt, the issues go beyond the sole question of whether access charges should apply The Commission must be prepared to review and revise a broad range of policies and rules if the Commission wants to facilitate investment and innovation in underlying voice and data networks.

It is also clear that the time is ripe for Commission action. While the information services industry has been in a state of transformation, unlike past periods when the Commission has considered the use of the local network by ESPs, there now exists a significant amount of ESP traffic on the public switched network in the form of Internet usage. The expectation is that such traffic will continue to grow. Indeed, public policy initiatives are being proposed to increase Internet connectivity which in turn will stimulate such traffic on local networks.

The public switched network is the primary means of access for individual Internet users The usage characteristics of such Internet users vary significantly from typical voice users. As Internet usage grows, the potential for congestion on the public switched network increases. Indeed, as Internet providers move to flat-rate pricing, more Internet traffic can be expected on the public switched network with increasing possibilities of congestion.[7]

BellSouth has endeavored to manage the increased network usage and minimize the congestion. For example, ISDN provides a service that minimizes the potential for congestion at

---

[7] America Online's experience when it converted to a flat-rate Internet service serves as a sufficient warning that affirmative steps must be taken now to avoid a critical public switched network failure.

the switch serving the Internet provider, a critical aggregation point in which congestion is most likely to occur first. Such steps, however, are short-term. They afford the Commission time, however, to take the necessary steps to develop and implement a long-term solution.

As discussed further below, BellSouth believes it has an approach that would enable it to serve the information service providers with a high-speed switched data service. The data service will offer information service providers the same ubiquity that the local public switched network provides for the purposes of having their users access their services, but the traffic will be transported over a data network rather than the voice network.

BellSouth identifies areas where the Commission will have to modify its rules and policies in order for this data service to be brought to the marketplace. Accordingly, BellSouth urges the Commission to begin the rulemaking immediately and consider BellSouth's proposal

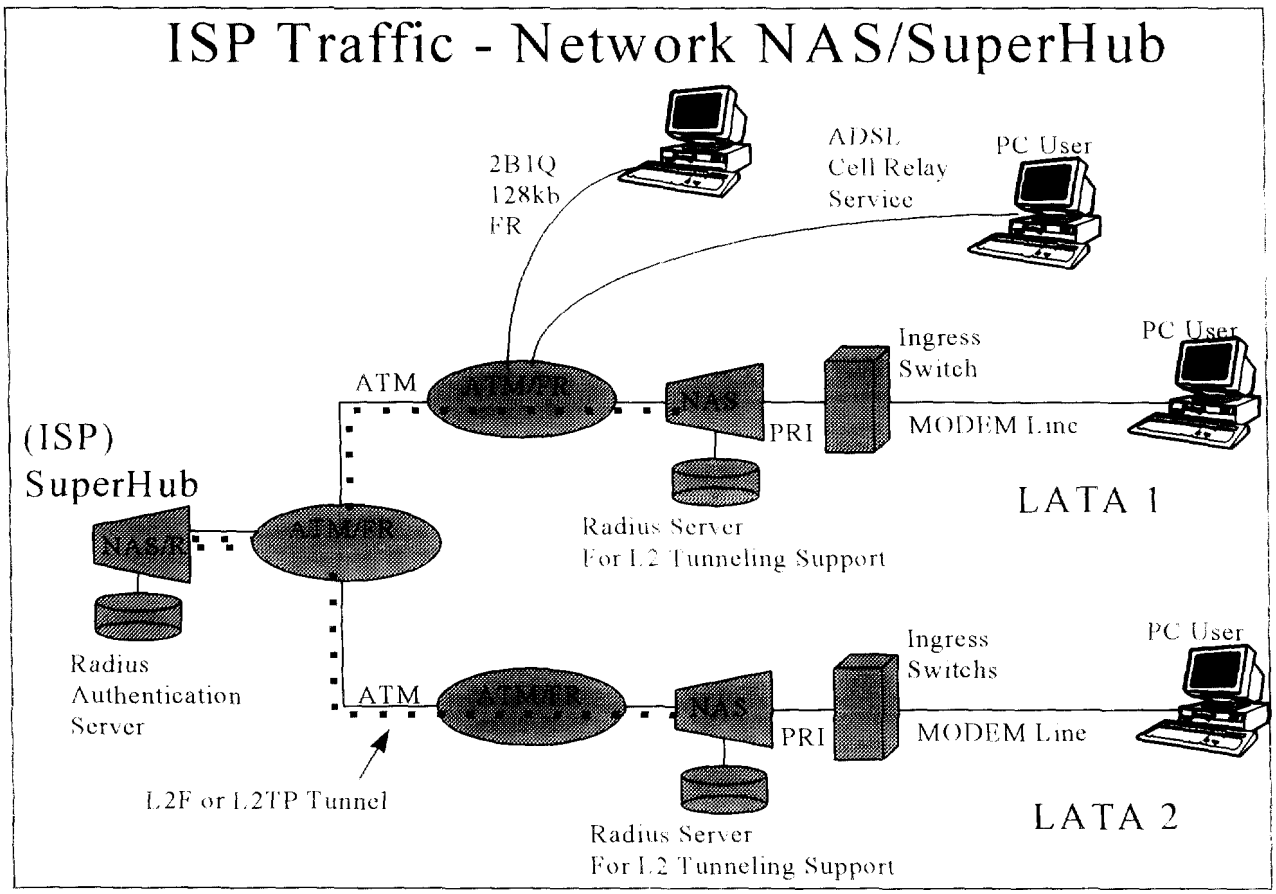
II. THE COMMISSION'S RULES SHOULD BE AMENDED TO FACILITATE THE DEVELOPMENT OF A HIGH-SPEED DATA NETWORK SOLUTION

Based on currently available technologies, a network solution could be developed by BellSouth that would afford Internet providers an alternative to the public switched network for the purposes of gaining access to their individual users. The data service not only could be used for Internet access but also would support the emerging demand for intranet access arrangements The high-speed data service would be based on a network access server. This network service could support multiple means of access to the data network such as modem dial-up, ISDN, frame relay, asynchronous transfer mode (ATM) and asymmetrical digital subscriber line (ADSL). Thus, an Internet provider could use a single network service to connect to its customers regardless of the means by which its customers access the data network. Further, the underlying

data network would be a common network and, therefore, have the same cost sharing benefits of the public switched network.

Figure 1 depicts the network architecture for the proposed data service. Dial up connections would be routed to the network access server. The network access server

Figure 1



would be connected to a radius server. The radius server would act as a routing database. In other words, based on the number dialed by the Internet subscriber, the radius server would identify the Internet provider to which the network access server should establish a data connection. In addition, using the L2 Tunneling protocol, the Internet provider would be able to authenticate that the end user is authorized to connect to the Internet provider's network. The

network access server would then make the connection to the underlying ATM/Frame Relay network to which the Internet provider would also be connected. As Figure 1 also illustrates, end users could also be directly connected to the underlying data network

There is a regulatory hurdle to be overcome before this network solution can be implemented. This architecture would involve protocol conversion. For example, with Frame Relay and Connectionless Data Service (CDS) as well as with Analog Modem and ISDN dial-up, the ingress protocol is different from the egress protocol. In the case of 2B1Q Frame Relay Service, the ingress protocol is frame relay and the egress protocol is ATM. With CDS, the ingress protocol is SMDS DXI and the egress protocol is ATM. With either analog or ISDN dial-up the ingress protocol is Point-to-Point Protocol (PPP) and the egress protocol is IP over ATM. In each case, protocol conversion would be done in the public network. Such protocol conversions have typically been viewed by the Commission as service interworking and, hence, enhanced services.

While protocol conversion can be done on a deregulated basis, the complexity and additional cost of compliance with the Commission's rules render the service arrangement unacceptable. Indeed, the cumbersome way in which the Commission's rules would require BellSouth to provide protocol conversion effectively insures that the arrangement would be unacceptable in the marketplace. These rules add artificial operating costs that raise the price of the service beyond a reasonable market price.

It is for this reason that the Commission should consider amending its rules regarding protocol conversion. In continuing the access charge exemption for ESPs, the Commission believed it was inappropriate to apply a set of rules that were designed for a circuit switched voice

network and that had not considered data services. In the same vein, the Commission should be equally concerned with rigid application of the protocol conversion rules that were established long before and never contemplated the current circumstances.

Moreover, the Commission should consider whether there is an overriding public policy that would warrant either a different approach in these circumstances or possibly forbearance. The Telecommunications Act encourages the Commission to use pro-competitive mechanisms such as forbearance to remove regulatory obstacles that inhibit the widespread deployment and availability of advanced telecommunications. In BellSouth's opinion, its proposed data network service would contribute to the achievement of the goals of the Telecommunications Act by providing cost-effective, high-speed data access to the Internet. At a minimum, however, the Commission should, as part of its rulemaking proceeding, consider the impact BellSouth's proposed network solution would have on access to advanced telecommunications.

If a data network solution can be implemented that is acceptable in the marketplace, such a solution would also resolve the ongoing question of whether access charges should be continued. The network solution would in fact resolve the Commission's outstanding concern that the access charge regime never explicitly considered data networks. Indeed, once a data network solution becomes available, ESP traffic that remains on public switched network would be there by the choice of the ESP. In these circumstances, it would be appropriate to terminate the access charge exemption.

III. CONCLUSION

The growth of Internet and other information services has raised serious concerns regarding congestion on the public switched network. BellSouth has proposed a network-based

solution that will alleviate the congestion on the public switched network. In order to bring this solution to the marketplace, however, the Commission must adopt a market approach to regulation and amend or forebear from applying its protocol conversion rules. BellSouth urges the Commission to commence a rulemaking proceeding that will lead to the removal of the regulatory obstacles that prevent innovative network options from being implemented.

Respectfully submitted,

BELLSOUTH CORPORATION
BELLSOUTH TELECOMMUNICATIONS, INC.

By: 

M. Robert Sutherland
Richard M. Sbaratta

Their Attorneys

Suite 1700
1155 Peachtree Street, N. E.
Atlanta, Georgia 30309-3610
(404) 249-3386

Date: March 24, 1997